OIPE

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/970,318

DATE: 10/17/2001 TIME: 10:46:55

Input Set : A:\249.00020101.ST25.txt
Output Set: N:\CRF3\10172001\1970318.raw



3 <110> APPLICANT: Cosgrove, Dominic 5 <120> TITLE OF INVENTION: Immunodiagnostic Determination Of Usher Syndrome Type IIa 7 <130> FILE REFERENCE: 249.00020101 C--> 9 <140> CURRENT APPLICATION NUMBER: US/09/970,318 C--> 9 <141> CURRENT FILING DATE: 2001-10-03 9 <150> PRIOR APPLICATION NUMBER: US 60/237,834 10 <151> PRIOR FILING DATE: 2000-10-03 12 <160> NUMBER OF SEQ ID NOS: 4 14 <170> SOFTWARE: PatentIn version 3.0 16 <210> SEQ ID NO: 1 17 <211> LENGTH: 23 18 <212> TYPE: PRT C--> 19 <213> ORGANISM: Artificial 21 <220> FEATURE: 22 <223> OTHER INFORMATION: Immunogen 24 <400> SEQUENCE: 1 26 Gln Ala Pro Pro Gln Thr Gln Gly Pro Pro Thr Val Trp Lys Ile Ser 10 29 Pro Thr Glu Leu Arg Ile Glu 20 32 <210> SEQ ID NO: 2 33 <211> LENGTH: 201 34 <212> TYPE: PRT 35 <213> ORGANISM: Homo sapiens 37 <400> SEQUENCE: 2 39 Pro Leu Ala Gln Arg Tyr Cys Ile Pro Asn Asp Ala Gly Asp Thr Ala 42 Asp Asn Arg Val Ser Arg Leu Asn Pro Glu Ala His Pro Leu Ser Phe 20 45 Val Asn Asp Asn Asp Val Gly Thr Ser Trp Val Ser Asn Val Phe Thr 35 40 48 Asn Ile Thr Gln Leu Asn Gln Gly Val Thr Ile Ser Val Asp Leu Glu 51 Asn Gly Gln Tyr Gln Val Phe Tyr Ile Ile Ile Gln Phe Phe Ser Pro 75 54 Gln Pro Thr Glu Ile Arg Ile Gln Arg Lys Lys Glu Asn Ser Leu Asp 90 57 Trp Glu Asp Trp Gln Tyr Phe Ala Arg Asn Cys Gly Ala Phe Gly Met 100 105 60 Lys Asn Asn Gly Asp Leu Glu Lys Pro Asp Ser Val Asn Cys Leu Gln 120 63 Leu Ser Asn Phe Thr Pro Tyr Ser Arg Gly Asn Val Thr Phe Ser Ile 135 66 Leu Thr Pro Gly Pro Asn Tyr Arg Pro Gly Tyr Asn Asn Phe Tyr Asn 150 155 69 Thr Pro Ser Leu Gln Glu Ser Val Lys Ala Thr Gln Ile Arg Phe His

170

165

70

Input Set : A:\249.00020101.ST25.txt
Output Set: N:\CRF3\10172001\1970318.raw

72 Phe His Gly Gln Tyr Tyr Thr Thr Glu Thr Ala Val Asn Leu Arg His 180 185 75 Arg Tyr Tyr Ala Val Asp Glu Ile Thr 195 76 78 <210> SEQ ID NO: 3 79 <211> LENGTH: 6330 '80 <212> TYPE: DNA 81 <213> ORGANISM: Homo sapiens 83 <400> SEQUENCE: 3 84 tgtttgctct gcagaatact ttacctgggc accaagtctt ccttccagca ttcctgctgc 60 86 tacagcctat ttgctgagta accaggggtt acagcagcgt tgccaggcaa cgagggacag 120 88 cggtcctgtt gaagagccat ttgtcacact gaggggactg gttgaaatgc aataaagaaa 180 90 tgataccagc agctactcat gtcttcgcca ttgctaagaa cgtcgttggt attaccttac 240 92 tctgagaacg tgtctgcagt ttccagaaaa tggagtatcg caacatcact taaagtaccc 300 94 tgcttcaaag tattgctggc aagtggcgtg ggcctgatta tttatttaga aatgctttat 360 96 caggaggaga atgctttttg taaacatgaa ttgcccagtt ctttcattgg gctctggctt 420 98 cttgtttcag gtcattgaaa tgttgatctt tgcctatttt gcttcaatat ccttgactga 480 100 gtcacgaggt cttttcccaa ggctggagaa cgtgggagct ttcaagaaag tttccatcgt 540 102 gccaacccaa gcagtatgtg gactcccaga ccgaagcact ttttgtcaca gctctgctgc 600 104 tgctgaaagt attcagttct gtacccagcg gttttgtatt caggattgcc catacagatc 660 106 ttcacaccct acctacactg cccttttctc agcaggcctc agtagctgca tcacaccaga 720 108 caagaatgat ctgcatccta acgcccatag caattctgca agttttattt ttggaaatca 780 110 caagagetge ttttettete etecttetee aaagetgatg geateattta cettagetgt 840 900 112 atggctgaaa cctgagcaac aaggtgtaat gtgtgttata gaaaagacrg tagatgggca 960 114 gattgtgttc aaacttacaa tatctgagaa agagaccatg ttttattatc gcacagtaaa 116 tggtttgcaa cctccaataa aagtaatgac actggggaga attcttgtga agaaatggat 1020 118 tcatcttagt gtgcaggtgc atcagacaaa aatcagcttc tttatcaatg gcgtggagaa 1080 120 ggatcataca cctttcaatg caagaactct aagtggttca attacagatt ttgcatctgg 1140 122 tactgtgcaa ataggacaga gtttaaatgg tttagagcag tttgtcggaa gaatgcaaga 1200 124 ttttcgatta taccaagtgg cacttacaaa cagagagatt ctggaagtct tctctggaga 1260 126 tetteteaga ttgcatgece aateacattg cegttgeeet ggcagecace egegggteea 1320 128 ccctttggca cagcggtact gcattcctaa tgatgcagga gacacagctg ataatagagt 1380 130 gtcacggttg aatcctgaag cccatcctct ctcttttgtc aatgataatg atgttggtac 1440 132 ttcatgggtt tcaaatgtgt ttacaaacat tacacagctt aatcaaggag tgactatttc 1500 134 agttgatttg gaaaatggac agtatcaggt gttttatatt atcattcagt tctttagtcc 1560 136 acaaccaacg gaaataagga ttcaaaggaa gaaggaaaat agtttagatt gggaggactg 1620 138 gcaatatttt gccaggaatt gtggtgcttt tggaatgaaa aacaatggag atttggaaaa 1680 140 acctgattct gtcaactgtc ttcagctttc caattttact ccatattccc gtggcaatgt 1740 142 cacatttage atectgacae etggaceaaa ttategteet ggatacaata aettetataa 1800 144 taccccatct cttcaagagt ccgtaaaagc cacgcaaata aggtttcatt ttcatgggca 1860 146 gtactataca actgagactg ctgttaacct cagacacaga tattatgcag tggacgaaat 1920 148 caccattagt gggagatgtc agtgccatgg tcatgccgat aactgcgaca caacaagcca 1980 150 gccatataga tgcctctgct cccaggagag cttcactgaa ggacttcatt gtgatcgctg 2040 152 cttgcctctt tataatgaca agcctttccg ccaaggtgat caagtttacg ctttcaattg 2100 154 taaaccttgt caatgcaaca gccattccaa aagctgccat tacaacatct ctgtagaccc 2160 156 atttcctttt gagcacttca gagggggagg aggagtttgt gatgattgtg agcataacac 2220 158 tacaggaagg aactgtgagc tgtgcaagga ttactttttc cgacaagttg gtgcagatcc 2280 160 ttcggccata gatgtttgca aaccctgtga ctgtgataca gttggcacta gaaatggtag 2340 162 cattetttgt gateagattg gaggaeagtg taattgtaag agacaegtgt etggeaggea 2400

Input Set : A:\249.00020101.ST25.txt
Output Set: N:\CRF3\10172001\I970318.raw

164	gtgcaatcag	tgccagaatg	gattctacaa	tctacaagag	ttggatcctg	atggctgcag	2460
166	tccctgtaac	tgcaatacct	ctgggacagt	ggatggagat	attacctgtc	accaaaattc	2520
168	aggccagtgc	aagtgcaaag	caaacgttat	tgggcttagg	tgtgatcatt	gcaattttgg	2580
170	atttaaattt	ctccgaagct	ttaatgatgt	tggatgtgag	ccctgccagt	gtaacctcca	2640
172	tggctcagtg	aacaaattct	gcaatcctca	ctctgggcag	tgtgagtgca	aaaaagaagc	2700
174	caaaggactt	cagtgtgaca	cctgcagaga	aaacttttat	gggttagatg	tcaccaattg	2760
176	taaggcctgt	gactgtgaca	cagctggatc	cctccctggg	actgtctgta	atgctaagac	2820
178	agggcagtgc	atctgcaagc	ccaatgttga	agggagacag	tgcaataaat	gtttggaggg	2880
180	aaacttctac	ctacggcaaa	ataattcttt	cctctgtctg	ccttgcaact	gtgataagac	2940
182	tgggacaata	aatggctctc	tgctgtgtaa	caaatcaaca	ggacaatgtc	cttgcaaatt	3000
184	aggggtaaca	ggtcttcgct	gtaatcagtg	tgagcctcac	aggtacaatt	tgaccattga	3060
186	caattttcaa	cactgccaga	tgtgtgagtg	tgattccttg	gggacattac	ctgggaccat	3120
188	ttgtgaccca	atcagtggcc	agtgcctgtg	tgtgcctaat	cgtcaaggaa	gaaggtgtaa	3180
190	tcagtgtcaa	ccaggttttt	atatttctcc	aggcaatgcc	actggctgcc	tgccatgctc	3240
192	atgccataca	actggcgcag	ttaatcacat	ctgtaatagc	ctgactggtc	agtgtgtttg	3300
				tgaccaatgc			3360
		_		taattgtcat	_		3420
				ctgtaaacaa			3480
	-			ggatgtcaac			3540
			_	acaagttcaa			3600
		-		ccactggctt			3660
		_	_	atacccatac	_		3720
				ctattacatt	-	_	3780
				gacaaaacca			3840
				agactctgtg			3900
	-			tattttgtcc			3960
				aacctcagct			4020
				gtgtactagc			4080
				tccccaaaga		-	4140
	_			atggtctcca	-		4200
	-	_		actgagatct			4260
				gctcagtcct	_	-	4320
				aatgacaacc			4380
				gaatatggct			4440
				tgtattcatg			4500
				ggagaagcca			4560
	_		_	ttctgaacaa			4620
			_	taaatcccaa		7	4680
			_	tactattact	_		4740
				tttagcagca			4800
				aatccatctt	_		4860
				ggaaaggaga			4920
			_	cataggaaat		_	4980
				tggtaagtgt			5040
				attttcatat			5100
		_	-	ccctttgata		-	5160
	•		_	aaaagtcagg			5220
	-	_		tggatcaaag			5280
				ttgaaatatt		-	5340
200	cccycyady	cacycyccay	gacacycecc	cigadalail	accountrying	cccccigage	2340

Input Set : A:\249.00020101.ST25.txt
Output Set: N:\CRF3\10172001\1970318.raw

```
262 aaatgagttt gcaaaatgcc ctcatgctat tggagattct cagtatgcac cccgttactg
                                                                         5400
264 aaactccaaa aagcattgta agaaagctat tcaactttgc ttagctaatc atgcctaaca
                                                                         5460
266 gatatttgat gtaatgtttt cttttcttt ctcttgctgt ttccttcttc tttttttcac
                                                                         5520
268 tgtgacaact taatatctca tgttctatga agaacattgt ggggaaaact aatcccaggg
                                                                         5580
270 aaaagataac ttctctaagc caggactatg gtaaagcaag tgaggctctt gtttcggtca
                                                                         5640
272 caaaatttaa aggcactaaa aaactcagtg ttaatgtaaa ttttaatgca atattttaa
274 aaatgaaaat caatgtgaaa gcactataaa aatattatca aaagcttaaa taaagacaga
                                                                         5760
276 ttgaactetg taccagcaca atcetgeete actggeetta ceeteeteet ggeettaeta
                                                                         5820
278 gtaccgcaat attttggaag tcccatgacc tctgtgactt acagcttcta atagcatgat
                                                                         5880
280 ttcaatatag ctgtaaaaaa actctactta tggtacacca tttttccaat ttttaaaaaa
                                                                         5940
282 atttacaaag tataagatat atattattat gtaaactcat aaagatgttc atttaatcat
                                                                         6000
284 ccatgagaaa gtcattttgg agcaaatagc tagtctttaa aatattgcat atgtgaagac
                                                                         6060
286 aatgaaatgg aattcgagct ataaaaattt gtattgtttt atttttactt aaaatagtaa
                                                                         6120
288 atagtttgct tttcattgag actggctgct gatgcacctt ggtaatgaat catgattata
                                                                         6180
290 ttctaactga gatatattga gattaatgca tgattaacta ctctctcagt acatcaaaat
                                                                         6240
292 cattgcagag tattagaaat tgaaccattg agctaaaaat gctcaacttc tgctttatat
                                                                         6300
294 tcttaaaatg gcaaaaaaaa aaaaaaaaa
                                                                         6330
297 <210> SEQ ID NO: 4
298 <211> LENGTH: 1551
299 <212> TYPE: PRT
300 <213> ORGANISM: Homo sapiens
302 <400> SEQUENCE: 4
304 Met Leu Phe Val Asn Met Asn Cys Pro Val Leu Ser Leu Gly Ser Gly
305 1
                                        10
307 Phe Leu Phe Gln Val Ile Glu Met Leu Ile Phe Ala Tyr Phe Ala Ser
308
310 Ile Ser Leu Thr Glu Ser Arg Gly Leu Phe Pro Arg Leu Glu Asn Val
311
            35
                                40
313 Gly Ala Phe Lys Lys Val Ser Ile Val Pro Thr Gln Ala Val Cys Gly
                            55
                                                 60
316 Leu Pro Asp Arg Ser Thr Phe Cys His Ser Ser Ala Ala Ala Glu Ser
317 65
                        70
                                             75
319 Ile Gln Phe Cys Thr Gln Arg Phe Cys Ile Gln Asp Cys Pro Tyr Arg
320
322 Ser Ser His Pro Thr Tyr Thr Ala Leu Phe Ser Ala Gly Leu Ser Ser
323
                                    105
325 Cys Ile Thr Pro Asp Lys Asn Asp Leu His Pro Asn Ala His Ser Asn
326
            115
                                120
                                                     125
328 Ser Ala Ser Phe Ile Phe Gly Asn His Lys Ser Cys Phe Ser Ser Pro
                            135
                                                 140
331 Pro Ser Pro Lys Leu Met Ala Ser Phe Thr Leu Ala Val Trp Leu Lys
332 145
                        150
                                             155
334 Pro Glu Gln Gln Gly Val Met Cys Val Ile Glu Lys Thr Val Asp Gly
335
                    165
                                        170
337 Gln Ile Val Phe Lys Leu Thr Ile Ser Glu Lys Glu Thr Met Phe Tyr
338
                180
                                    185
340 Tyr Arg Thr Val Asn Gly Leu Gln Pro Pro Ile Lys Val Met Thr Leu
                                200
343 Gly Arg Ile Leu Val Lys Lys Trp Ile His Leu Ser Val Gln Val His
```

Input Set : A:\249.00020101.ST25.txt
Output Set: N:\CRF3\10172001\I970318.raw

211		210					215					220				
	Cln		Tvro	т1 о	802	Dho		T10	Nan	C1.,	37-1		T ***	7 an	His	шь×
	225	1111	пуз	116	261	230	FIIC	116	ASII	GTÅ	235	GIU	пув	ASP	птэ	240
		Dho	N an	ת 1 ת	λra		T 011	cor	C1,,	802		mh~	N an	Dho	Ala	
350	PIO	FIIE	ASII	нта	245	1111	ьеu	261	GLY	250	116	1111	АБР	Pile	255	ser
	C117	Thr	17 a 1	Cln		Clv	Cln	cor.	Tau		C1**	Tau	Gl u	Gln		W-1
352	GTĀ	TIIT	val	260	116	GIY	GIII	Sel	265	ASII	GLY	ьeu	GLU	270	Phe	vai
	C1**	7 ~~	Mot). Nan	Dho	7~~	Tou		Cln	37 - 1	7.1.	Tou		7 an	7 ~~
356	GIY	Arg	275	GIII	ASP	rne	Arg	280	TAT	GIII	Vai	Ата	285	TILL	Asn	Arg
	C111	T10		clu	17 n 1	Dhe	Sor		7.00	Tou	Lou	7 ~~		ui o	Ala	Cln
359	Giu	290	пси	GIU	·	1110	295	GLY	vob	рец	Бец	300	пси	1113	пια	GIII
	Ser		Cve	Δra	Cvc	Pro		Sar	Hic	Pro	λνα		Hic	Dro	Leu	Δla
	305	1110	Cys	9	Cys	310	OLY	DCI	111.0	110	315	vai	1113	110	пси	320
		Δra	ጥህጉ	Cvs	Tle		Δen	Asn	Δla	G1 v		Thr	Δla	Asn	Asn	
365	GIII	nr 9	- Y -	Cys	325	110	RSII	пор	AIG	330	ьэр	T11T	ΑΙα	изр	335	Arg
	Val	Ser	Δra	T.e.11		Pro	Glu	Δla	Hic		T.e.11	Ser	Phe	Val	Asn	Aen
368	·uı	501	**** 9	340	11011		OLG		345	110	шеч	001	1 110	350	*****	пор
	Δsn	Asn	٧al		Thr	Ser	Ψrn			Δsn	Val	Phe	Thr		lle	Thr
371	11011	пор	355	017		001	++P	360	501	7.0	, u 1	1	365		110	1111
	Gln	Leu		Gln	Glv	Val	Thr		Ser	Val	Asp	Leu		Asn	Gly	Gln
374	01	370		01	011		375		001	,		380	014		011	01
	Tvr		Val	Phe	Tvr	Ile		Ile	Gln	Phe	Phe		Pro	Gln	Pro	Thr
	385				-1-	390					395					400
		Ile	Arσ	Ile	Gln		Lvs	Lvs	Glu	Asn		Leu	Asp	Trp	Glu	
380			5		405	5	-1-	-1 -		410					415	
	Trp	Gln	Tyr	Phe	Ala	Arq	Asn	Cys	Gly		Phe	Gly	Met	Lvs	Asn	Asn
383	-		-	420	•	_		-	425			•		430		
385	Gly	Asp	Leu		Lys	Pro	Asp	Ser	Val	Asn	Cys	Leu	Gln	Leu	Ser	Asn
386	_	•	435		-		-	440			-		445			
388	Phe	Thr	Pro	Tyr	Ser	Arg	Gly	Asn	Val	Thr	Phe	Ser	Ile	Leu	Thr	Pro
389		450					455					460				
391	Gly	Pro	Asn	Tyr	Arg	Pro	Gly	Tyr	Asn	Asn	Phe	Tyr	Asn	Thr	Pro	Ser
392	465					470					475					480
394	Leu	Gln	Glu	Ser	Val	Lys	Ala	Thr	Gln	Ile	Arg	Phe	His	Phe	His	Gly
395					485					490					495	
397	Gln	Tyr	Tyr	Thr	Thr	Glu	Thr	Ala	Val	Asn	Leu	Arg	His	Arg	Tyr	\mathtt{Tyr}
398				500					505					510		
400	Ala	Val	Asp	Glu	Ile	Thr	Ile	Ser	Gly	Arg	Cys	Gln	Cys	His	Gly	His
401			515					520					525			
403	Ala		Asn	Cys	Asp	Thr		Ser	Gln	Pro	Tyr	Arg	Cys	Leu	Cys	Ser
404		530					535					540				
		Glu	Ser	Phe	Thr		Gly	Leu	His	Cys		Arg	Cys	Leu	Pro	
	545					550					555					560
	Tyr	Asn	Asp	Lys		Phe	Arg	Gln	Gly	Asp	Gln	Val	Tyr	Ala	Phe	Asn
410					565					570					575	
	Cys	Lys	Pro		Gln	Cys	Asn	Ser		Ser	Lys	Ser	Cys		Tyr	Asn
413				580	_		_		585	•		_		590		
	Ile	Ser		Asp	Pro	Phe	Pro		Glu	His	Phe	Arg	_	Gly	Gly	Gly
416			595					600					605			

VERIFICATION SUMMARY

DATE: 10/17/2001

PATENT APPLICATION: US/09/970,318

TIME: 10:46:56

Input Set : A:\249.00020101.ST25.txt
Output Set: N:\CRF3\10172001\1970318.raw

L:9 M:270 C: Current Application Number differs, Replaced Current Application No

L:9 M:271 C: Current Filing Date differs, Replaced Current Filing Date

L:19 M:220 C: Keyword misspelled or invalid format, <213> ORGANISM for SEQ ID#:1